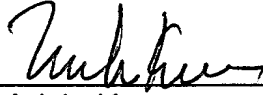


of this paper, including extension of time fees, to Deposit Account No. 01-2135 (520.40466X00) and please credit any excess fees to such deposit account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Melvin Kraus', written over a horizontal line.

Melvin Kraus

Registration No. 22,466

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

Please amend claims 5, 8-10 and 12-14 as follows:

5. (twice amended) A personal computer, comprising:

a semiconductor element;

a signal input portion;

a display device; and

a liquid cooling system, including:

a pump ~~of the pulsation type~~ for supplying cooling liquid;

a heat receiving jacket supplied with said cooling liquid and positioned to receive heat generated within said semiconductor element;

a heat radiation pipe for radiating heat which is supplied by the cooling liquid passing through said heat receiving jacket; and

a passage for circulating the cooling liquid passing through said heat radiation pipe into said pump so that said cooling liquid circulates within a closed flow passage, wherein

$\Delta V_s$  is equal to or greater than  $\Delta V_p$ , with the inner volume change when said pump emits ~~a pulsation~~ the cooling liquid therefrom being represented by  $\Delta V_p$ , the pressure caused by said volume change being represented by P, and the volume change due to said pressure P which occurs in the flow passage of the cooling liquid, other than in said pump, being represented by  $\Delta V_s$ .

8. (twice amended) A personal computer, comprising:

a main body including a semiconductor element and a signal input portion;

a display device having a display portion connected with said main body through a movable mechanism; and

a liquid cooling system, including:

a pump ~~of the pulsation type~~ for supplying cooling liquid;

a heat receiving jacket disposed within said main body and supplied with said cooling liquid, said heat receiving jacket being positioned to receive heat generated within said semiconductor element;

a heat radiation pipe being disposed on a back surface of said display portion of said display device for radiating heat which is supplied by the cooling liquid passing through said heat receiving jacket;

a passage for circulating the cooling liquid passing through said heat radiation pipe into said pump so that said cooling liquid circulates within a closed flow passage; and

an accumulator connected to said closed flow passage and having a supply opening for supplying said circulating cooling liquid therethrough, a discharge opening for discharging said cooling liquid therethrough, and a chamber that maintains gas and said cooling liquid therein, wherein

the amount of the cooling liquid maintained within said accumulator changes in response to emission of a ~~pulsation~~ the cooling liquid from said pump.

9. (twice amended) A personal computer as defined in the claim 8, wherein  $\Delta V_s$  is equal to or greater than  $\Delta V_p$ , with the inner volume change when said pump emits a ~~pulsation~~ the cooling liquid therefrom being represented by  $\Delta V_p$ , the pressure caused by said volume change being represented by P, and the volume change due to said pressure P in the flow passage of the cooling liquid, other than said pump, being represented by  $\Delta V_s$ .

10. (twice amended) A personal computer, comprising:

a semiconductor element;

a signal input portion;

a display device; and

a liquid cooling system, including:

an emission pump ~~of the pulsation type~~ for supplying cooling liquid ~~by using reciprocating movement of a diaphragm having a piezo element~~;

a heat receiving jacket supplied with said cooling liquid and positioned to receive heat generated within said semiconductor element;

a heat radiation pipe for radiating heat which is supplied by the cooling liquid passing through said heat receiving jacket;

an accumulator having a supply opening for supplying said circulating cooling liquid therethrough, a discharge opening for discharging said cooling liquid therethrough, and a chamber for maintaining gas and said cooling liquid therein; and

a passage for circulating the cooling liquid passing through said heat radiation pipe into said pump so that said cooling liquid circulates within a closed flow passage, wherein

the amount of cooling liquid maintained within said accumulator changes in response to emission of ~~a pulsation~~ the cooling liquid from said pump.

12. (amended) A liquid cooling system as defined in claim 2, wherein plural pumps ~~of the pulsation type~~ are connected in series in said flow passage.

13. (amended) A liquid cooling system as defined in claim 12, wherein two of said plural pumps are operated to respectively produce ~~pulsations~~ emission of said cooling liquid that are 180° different in phase from each other.

14. (amended) A liquid cooling system as defined in claim 13, wherein said pumps emit ~~pulsations~~ the cooling liquid by the reciprocal movement of the member in said pump is caused by bending or flexible of a diaphragm.